Executive Summary

The following report summarizes the results of the Keystone Harbor Study. As directed by the State Legislature in ESHB 2474, Washington State Ferries (WSF) studied a wide range of options for operating out of Keystone Harbor, including vessels that could operate in the existing harbor as well as modifications to the harbor that would allow operation of a larger vessel. The State Legislature directed WSF to perform this analysis with the help of a four-person Citizen Advisory Group. The result of this seven-month process is the following report and technical appendices provided to the Legislative Transportation Committee.

WSF met with the Citizen Advisory Group six times over the course of the seven month study. The study looked at 35 "scenarios" – combinations of harbor configurations and vessel options. As the study progressed, the Citizen Advisory Group and WSF narrowed and further developed the scenarios based on cost, feasibility, probable effects and safety considerations.

The study included analyses of traffic, environmental impacts, ridership, safety, and costs and benefits. A physical model of Keystone Harbor was constructed and was used in conjunction with a computer model to analyze the various harbor configurations. Ultimately, the four options noted in the table were selected by the Citizen Advisory Group and WSF and are recommended for further study.

	Using a 130-car vessel/ relocating the jetty	**Using a 130-car vessel/ extending the jetty**	**Building new special propulsion vessels/using the existing harbor and terminal**	**Building new 65-car "Keystone Special" vessels/using the existing harbor and terminal**
Vessel Capacity	130 cars	130 cars	100 cars	65 cars
Harbor/Terminal Modification	Relocate existing jetty 300 feet to the east and widen the channel to 400 feet	Extend jetty 600 feet and widen the harbor to the west 100 feet	Add holding capacity adjacent to the existing holding area	Add holding capacity adjacent to the existing holding area
Number of Vessels Needed by 2030	2	2	2	3
Estimated Total Lifecycle Cost in Current (Inflated) Dollars	$805 million	$824 million	$841 million	$1,064 million

Key Findings

Specific findings for each of the four options are identified in the body of the report. The following are some of the key findings of the study regarding the four options that are being carried forward:

- The estimated costs over 30 years for all but one of the lowest cost options fell within 10% of each other. The 65-car "Keystone Special" vessel option was considerably more expensive than the others due to the additional cost of a third vessel on the route, and the fact that the costs cannot be shared with the rest of the system.
- Vessel cost makes up over 80% of the total current (inflated) dollar cost in all options.
- Extending or relocating the jetty makes it technically feasible to bring a larger vessel into Keystone Harbor.
- Environmental considerations:
    - Substantially modifying the jetty presents environmental and permitting challenges.
    - Relocating the jetty would not result in a net increase in the size of the jetty and habitat at the old jetty location could be enhanced.
    - Relocating the jetty would affect the Keystone Conservation Area (dive park).
    - Effects to the surrounding area, including Ebey's Landing National Historic Reserve, would be similar for all options.
    - The long-term connection between Crockett Lake and the harbor remains unchanged.
- New special propulsion vessels may be able to operate in Keystone Harbor, but require further study as to cost, operation and performance on the entire route.
- The size of the holding area needs to be expanded for all options, regardless of vessel size, in order to minimize the amount of traffic that overflows onto SR 20.
- There will be little difference in traffic effects on local highways in the year 2030, regardless of vessel size, due to the way traffic splits after leaving the terminal.
- The "Keystone Special" and new special propulsion vessel options have high levels of uncertainty and wide cost range estimates than the known 130-car vessels.

Next Steps

Each option that is being recommended for further study has its own challenges. WSF is proceeding with additional research, technical studies and cost analysis of the four options. For example, more research is needed into new special propulsion vessels, and their performance on the crossing between Port Townsend and Keystone. In addition, more information is needed from permitting agencies and the U. S. Army Corps of Engineers regarding moving or extending the jetty. Additional risk and cost analyses will also be completed for all four options.

Although additional research is needed, the Keystone Harbor Study has been very valuable. New options were identified that had not been previously considered and

important data were collected. The physical harbor model brought a new level of understanding about the harbor and the surrounding beach and waters. Most importantly, WSF and the citizens of local communities increased their mutual understanding of community concerns and WSF operating considerations.